CLAIMS

What is claimed is:

1. A system that facilitates data perspective generation, comprising:

a component that receives user-specified input data including a target variable from a database; and

a generation component that provides automatic generation of at least one conditioning variable for a data perspective of the target variable, derived from, at least in part, the user-specified input data and the database.

2. The system of claim 1, the data perspective comprising at least one selected from the group consisting of a pivot table and an on-line analytical processing (OLAP) cube.

3. The system of claim 1, further comprising:

a data perspective component that automatically generates the data perspective utilizing at least one automatically generated conditioning variable.

4. The system of claim 3, the data perspective component additionally adjusts a user view of the data perspective automatically to enhance its presentation to a user based on, at least in part, a machine learning technique.

5. The system of claim 4, wherein the system utilizes at least one user control input.

6. The system of claim 1, the generation component employs at least one machine learning technique that facilitates in the automatic generation of the conditioning variable.

7. The system of claim 6, the machine learning technique identifies at least one conditioning variable for at least one selected from the group consisting of a top set and a left set of the data perspective of the target variable.

8. The system of claim 7, the conditioning variable is controllable *via* a user control input.

9. The system of claim 7, the machine learning technique identifies the conditioning variable based on its ability to predict the target variable versus the complexity of the conditioning variable(s).

10. The system of claim 9, the machine learning technique additionally applies utility of a variable in identifying the conditioning variable.

11. The system of claim 7, the machine learning technique employs at least one complete decision tree that facilitates in identification of the conditioning variable.

12. The system of claim 11, the machine learning technique utilizes at least one heuristic method to construct the complete decision tree.

13. The system of claim 7, the conditioning variable comprising at least one selected from the group consisting of a discrete conditioning variable and a continuous conditioning variable.

14. The system of claim 13, the machine learning technique additionally automatically determines granularity of the conditioning variable *via* discretization.

15. The system of claim 14, the granularity is adjustable *via* a user control input.

16. The system of claim 14, the machine learning technique determines the granularity of the conditioning variable based on its ability to predict the target variable versus the complexity of the conditioning variable(s).

17. The system of claim 16, the machine learning technique additionally applies utility of a granularity of a conditioning variable in identifying the granularity of the conditioning variable.

18. The system of claim 16, the machine learning technique employs at least one complete decision tree that facilitates in determination of the granularity of the conditioning variable.

19. The system of claim 18, the machine learning technique utilizes at least one heuristic method to construct the complete decision tree.

20. The system of claim 13, the machine learning technique automatically determines at least one range of the continuous conditioning variable and represents the range as a new conditioning variable.

21. The system of claim 20, the range is adjustable *via* a user control input.

22. The system of claim 20, the machine learning technique determines the range of the continuous conditioning variable based on its ability to predict the target variable versus the complexity of the conditioning variable(s).

23. The system of claim 22, the machine learning technique additionally applies utility of a range of a continuous variable in identifying the range of the continuous conditioning variable.

24. The system of claim 22, the machine learning technique employs at least one complete decision tree that facilitates in determination of the range of the conditioning variable.

25. The system of claim 24, the machine learning technique utilizes at least one heuristic method to construct the complete decision tree.

26. A method for facilitating data perspective generation, comprising:

receiving user-specified input data including a target variable from a database; and

automatically generating at least one conditioning variable for a data perspective of the target variable, derived from, at least in part, the user-specified input data and the database.

27. The method of claim 26, automatically generating the data perspective further including:

employing at least one machine learning process to facilitate in automatically generating the conditioning variable.

28. The method of claim 27, the machine learning process comprising:

identifying at least one conditioning variable for at least one selected from the group consisting of a top set and a left set of the data perspective of the target variable; the conditioning variable identified based on its ability to predict the target variable versus the complexity of the conditioning variable(s);

automatically determining granularity of a discrete conditioning variable; the granularity of the conditioning variable based on its ability to predict the target variable versus the complexity of the conditioning variable(s); and

determining at least one range of a continuous conditioning variable and representing the range as a new conditioning variable; the range of the conditioning variable based on its ability to predict the target variable versus the complexity of the conditioning variable(s).

29. The method of claim 28, identifying the conditioning variable comprising:

employing at least one complete decision tree to determine at least one optimum conditioning variable and its granularity that best predicts the target variable; the complete decision tree constructed utilizing at least one heuristic method.

30. The method of claim 29, the heuristic method comprising:

learning a single decision tree comprising the complete decision tree;

converting the single decision tree into a set of predictor variables and corresponding values for the predictor variables; and

searching over at least one sub-tree of the single decision tree to find at least one optimum set of predictor variables and their granularities.

31. The method of claim 30, searching over at least one sub-tree comprising:

selecting a first sub-tree with a root node with no predictor variables;

choosing a second sub-tree by adding a single split from the single decision tree; the single split selected *via* evaluation of splits for an optimum score; and

halting when at least one selected from the group consisting of an occurrence of no additional splits increasing the optimum score and an occurrence of the second sub-tree equating to the single decision tree.

32. The method of claim 28, further comprising:

adjusting, based on at least one user control input, at least one selected from the group consisting of a conditioning variable, a granularity of a conditioning variable, and a range of a continuous conditioning variable.

33. The method of claim 28, further comprising:

applying a utility value to facilitate in identifying *and/or* determining at least one selected from the group consisting of a conditioning variable, a granularity of a conditioning variable, and a range of a continuous conditioning variable.

34. The method of claim 26, further comprising:

automatically generating the data perspective utilizing at least one automatically generated conditioning variable.

35. The method of claim 34, further comprising:

adjusting a view of the data perspective automatically to enhance its presentation to a user based on, at least in part, a machine learning technique.

36. The method of claim 35, wherein the method utilizes at least one user control input.

37. The method of claim 26, the data perspective comprising at least one selected from the group consisting of a pivot table and an on-line analytical processing (OLAP) cube.

38. A system that facilitates data perspective generation, comprising:

means for receiving user-specified input data including a target variable from a database; and

means for automatically generating at least one conditioning variable for a data perspective of the target variable, derived from, at least in part, the user-specified input data and the database.

39. A data packet, transmitted between two or more computer components, that facilitates data perspective generation, the data packet comprising, at least in part, information relating to a data perspective generation system that utilizes, at least in part, user-specified data, including a target variable of a database, to automatically generate at least one conditioning variable of a data perspective of the target variable from the database.

40. A computer readable medium having stored thereon computer executable components of the system of claim 1.

41. A device employing the method of claim 26 comprising at least one selected from the group consisting of a computer, a server, and a handheld electronic device.

42. A device employing the system of claim 1 comprising at least one selected from the group consisting of a computer, a server, and a handheld electronic device.